



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,506	01/28/2002	Rintaro Yamamoto	NGB-12947	2233
40854	7590	03/25/2005	EXAMINER	
RANKIN, HILL, PORTER & CLARK LLP			LUDLOW, JAN M	
4080 ERIE STREET			ART UNIT	
WILLOUGHBY, OH 44094-7836			PAPER NUMBER	
			1743	

DATE MAILED: 03/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/058,506

Applicant(s)

YAMAMOTO, RINTARO

Examiner

Jan M. Ludlow

Art Unit

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 12-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 12-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1743

1. Claims 1-6, 12-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

2. In claim 1, lines 5-6, claim 3, lines 5-6, claim 6, lines 7-8 and claim 23, lines 11-12, it is unclear whether the connection mechanism connects to either atmosphere or the pressure mechanism, or to both atmosphere and the pressure mechanism alternately. For purposes of examination, the claim has been interpreted in view of the specification to connect to both alternately. In claim 1, line 11, claim 3, line 11, claim 23, line 17 "securing the capillary" is unclear—securing to what? For purposes of examination, the claims have been interpreted as "securing the capillary to the capillary support".

3. Claims 1-6, 12-23 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: the connection to both atmosphere and pressure, alternatively. If the connection mechanism connects only to atmosphere, as the present claim language supports, there is no connection to the pressure mechanism. Without connection to atmosphere, the capillary draw does not work.

4. Claims 2, 12, 13, 20-22 and the claims depending therefrom are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that

Art Unit: 1743

the inventor(s), at the time the application was filed, had possession of the claimed invention.

5. Claims 2, 12 and 13 are not supported because the switching mechanism is the valve 7 of the first embodiment, which is not shown or described with the second, third and fourth embodiments, the subject of the instant claims. Claims 20-22 are not supported because claim 6 relates to the fourth embodiment, which has a heater, not a diaphragm and solenoid.

6. The above new matter should be cancelled.

7. Claims 1-6, 12-25 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 1st and 2nd paragraph, set forth in this Office. A proposed amendment overcoming the rejections is provided below.

8. The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach or suggest the invention as claimed.

9. With respect to claims 4-5, Little fails to teach or suggest the diaphragm, and it would not have been obvious to provide one because it would block the vent.

10. With respect to claims 4-5, Jovanovich teaches foam rubber member 304 below the support 10, first chamber 313, second chamber 307 and elastic membrane 308, and gasket 312 connecting the first pressure chamber (313) to the support. In that the capillaries are adhered to the support, there is no motivation to provide an elastic member for securing the capillary to the support.

11. With respect to claim 6, Yassinzadeh teaches a capillary coupled to a hermetic chamber with a heater for moving fluid, but fails to teach or suggest connection

Art Unit: 1743

mechanism for connecting of the "other" end of capillary to atmosphere, in that the pressure chamber must be sealed to trap the gas to effect pressure changes on heating.

12. The following claim amendments drafted by the examiner and considered to distinguish patentably over the art of record in this application, are presented to applicant for consideration:

In claim 1, lines 5-6, change "at least one of: " to --, alternately, --.

In claim 1, line 11, insert --to the capillary support—after "capillary".

Cancel claim 2.

In claim 3, lines 5-6, change "at least one of: " to --, alternately, --.

In claim 3, line 11, insert --to the capillary support—after "capillary".

In claim 6, line 5, change "the" to --a -- before "pressure unit".

In claim 6, lines 7-8, change "at least one of: " to --, alternately, --.

In claim 6, line 12, insert --wherein—after "and".

In claim 6, line 13, change "a" to --the—before "pressure" and insert --is—after "unit".

Cancel claims 12-13.

Cancel claims 20-22.

In claim 23, lines 11-12, change "at least one of:" to --, alternately, --.

In claim 23, line 17, insert --to the capillary support—after "capillary".

Art Unit: 1743

The amendments to claims 1, 3 and 6 serve to overcome the rejections under 35 USC 112, 2nd paragraph and to clarify antecedence. Claims 2, 12 and 13 are cancelled because the switching mechanism is the valve 7 of the first embodiment, which is not shown or described with the second, third and fourth embodiments, the subject of the instant claims. Claims 20-22 are cancelled because claim 6 relates to the fourth embodiment, which has a heater, not a diaphragm and solenoid. Claims 15-16, 18-19 find support on page 14, lines 23-25, which are interpreted to mean an individual pressure unit (having the claimed elements) is provided to each individual capillary of the plural capillary embodiment. Claim 23 finds support on page 14, lines 20-24.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 1743

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jan M. Ludlow whose telephone number is (571) 272-1260. The examiner can normally be reached on Monday-Thursday, 11:30 am - 8:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jan M. Ludlow
Primary Examiner
Art Unit 1743